

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended): An ~~arrangement~~ apparatus for producing a sequence of a predetermined length in a spread spectrum communication system, ~~the arrangement~~ comprising:

means for storing a plurality of predetermined sequences having lengths less than the predetermined length;

means for arranging the plurality of predetermined sequences in an indexed list;

means for selecting at least two of the plurality of predetermined sequences from the indexed list; and

means for concatenating the selected ~~at least two of the plurality of~~ predetermined sequences to produce the sequence of the predetermined length ~~sequence~~.

2. (Currently Amended): The ~~arrangement~~ apparatus of claim 1 wherein

~~the plurality of predetermined sequences are arranged in an indexed list; and~~

~~the means for selecting comprises:~~

~~means for selecting a first sequence of the at least two of the plurality of predetermined sequences with an index value of n from the indexed list; and~~

~~means for selecting each successive sequence of the at least two of the plurality of predetermined sequences with an index value incremented from that of the previously selected sequence from the indexed list.~~

3. (Currently Amended): The ~~arrangement~~ apparatus of claim 2 wherein the increment is a predetermined integer.

4. (Currently Amended): The ~~arrangement~~ apparatus of claim 3 wherein the predetermined integer is one of: 0, 1 and 2.

5. (Currently Amended): The ~~arrangement~~ apparatus of claim 2 wherein the increment is randomly chosen for each successive sequence.

6. (Currently Amended): The ~~arrangement apparatus of any one of claims 2-5~~ of claim 2 wherein n is determined from at least one of A-F:

- A initial cell parameter assignment,
- B system frame number (SFN),
- C chip rate of transmission,
- D predetermined length of spreading code,
- E identifier of intended receiver of data spread with the predetermined length spreading code,
- F channelisation code employed.

7. (Currently Amended): The ~~arrangement apparatus of any one of claims 1-6~~ of claim 1 wherein the plurality of predetermined sequences have a length of 16 chips.

8. (Currently Amended): The ~~arrangement apparatus of any one of claims 1-7~~ of claim 1 wherein the spread spectrum communication system comprises a DS-CDMA UMTS system.

9. (Currently Amended): The ~~arrangement apparatus~~ of claim 8 wherein the system comprises a UTRA TDD system.

10. (Currently Amended): The ~~arrangement apparatus~~ of any one of claims 1-8 of claim 1 wherein the sequence is one of:

a spreading sequence,

a scrambling sequence and

a midamble.

11. (Currently Amended): The ~~arrangement apparatus~~ of any one of claims 1-9 of claim 1 further comprising:

means for processing data with the predetermined length sequence.

12. (Currently Amended): A method of producing a sequence of a predetermined length in a spread spectrum communication system, the method comprising:

~~providing~~ storing a plurality of predetermined sequences having lengths less than the predetermined length;

arranging the plurality of predetermined sequences in an indexed list;

selecting at least two of the plurality of predetermined sequences from the indexed list;
and

concatenating the selected ~~at least two of the plurality of~~ predetermined sequences to produce the sequence of the predetermined length sequence.

13. (Currently Amended): The method of claim 12 wherein

~~the step of providing comprises providing the plurality of predetermined sequences in an indexed list; and~~

~~the step of~~selecting comprises:

selecting a first sequence of the at least two of the plurality of predetermined sequences with an index value of n from the indexed list; and

selecting each successive sequence of the at least two of the plurality of predetermined sequences with an index value incremented from that of the previously selected sequence from the indexed list.

14. (Original): The method of claim 13 wherein the increment is a predetermined integer.

15. (Original): The method of claim 14 wherein the increment is one of: 0, 1 and 2.

16. (Original): The method of claim 13 wherein the increment is randomly chosen for each successive sequence.

17. (Currently Amended): The method ~~of any one of claims 12-16~~ of claim 12 wherein n is determined from at least one of A-F:

- A initial cell parameter assignment,
- B system frame number (SFN),
- C chip rate of transmission,
- D predetermined length of spreading code,
- E identifier of intended receiver of data spread with the predetermined length spreading code,
- F channelisation code employed.

18. (Currently Amended): The method ~~of any one of claims 12-17~~ of claim 12 wherein the plurality of predetermined sequences have a length of 16 chips.

19. (Currently Amended): The method ~~of any one of claims 11-17~~ of claim 11 wherein the spread spectrum communication system comprises a DS-CDMA UMTS system.

20. (Original): The method of claim 19 wherein the UMTS system comprises a UTRA TDD system.

21. (Currently Amended): The method ~~of any one of claims 12-20~~ of claim 12 further comprising:

processing data with the predetermined length sequence.

22. (Currently Amended): A base station for use in a CDMA system, the base station comprising the ~~arrangement~~ apparatus of any one of claims 1-11.

23. (Currently Amended): User equipment for use in a CDMA system, the user equipment comprising the ~~arrangement~~ apparatus of any one of claims 1-11.

23. (Currently Amended): ~~A computer program element comprising computer program means for~~ A computer-readable storage medium containing computer-executable instructions for performing ~~substantially~~ the method of any one of claims 12-21.

24. (Currently Amended): An integrated circuit comprising ~~substantially~~ the ~~arrangement~~ apparatus of any one of claims 1-11.

25. (New): The apparatus of claim 3 wherein n is determined from at least one of A-F:

- A initial cell parameter assignment,
- B system frame number (SFN),
- C chip rate of transmission,

- D predetermined length of spreading code,
- E identifier of intended receiver of data spread with the predetermined length spreading code,
- F channelisation code employed.

26. (New): The apparatus of claim 4 wherein n is determined from at least one of A-F:

- A initial cell parameter assignment,
- B system frame number (SFN),
- C chip rate of transmission,
- D predetermined length of spreading code,
- E identifier of intended receiver of data spread with the predetermined length spreading code,
- F channelisation code employed.

27. (New): The apparatus of claim 5 wherein n is determined from at least one of A-F:

- A initial cell parameter assignment,
- B system frame number (SFN),
- C chip rate of transmission,
- D predetermined length of spreading code,

E identifier of intended receiver of data spread with the predetermined length spreading code,

F channelisation code employed.

28. (New): The apparatus of claim 2 wherein the plurality of predetermined sequences has a length of 16 chips.

29. (New): The apparatus of claim 3 wherein the plurality of predetermined sequences has a length of 16 chips.

30. (New): The apparatus of claim 4 wherein the plurality of predetermined sequences has a length of 16 chips.

31. (New): The apparatus of claim 5 wherein the plurality of predetermined sequences has a length of 16 chips.

32. (New): The apparatus of claim 6 wherein the plurality of predetermined sequences has a length of 16 chips.

33. (New): The apparatus of claim 2 wherein the spread spectrum communication system comprises a DS-CDMA UMTS system.

34. (New): The apparatus of claim 3 wherein the spread spectrum communication system comprises a DS-CDMA UMTS system.

35. (New): The apparatus of claim 4 wherein the spread spectrum communication system comprises a DS-CDMA UMTS system.

36. (New): The apparatus of claim 5 wherein the spread spectrum communication system comprises a DS-CDMA UMTS system.

37. (New): The apparatus of claim 6 wherein the spread spectrum communication system comprises a DS-CDMA UMTS system.

38. (New): The apparatus of claim 7 wherein the spread spectrum communication system comprises a DS-CDMA UMTS system.

39. (New): The apparatus of claim 2 wherein the sequence is one of:

a spreading sequence,

a scrambling sequence and

a midamble.

40. (New): The apparatus of claim 3 wherein the sequence is one of:

a spreading sequence,

a scrambling sequence and

a midamble.

41. (New): The apparatus of claim 4 wherein the sequence is one of:

a spreading sequence,

a scrambling sequence and

a midamble.

42. (New): The apparatus of claim 5 wherein the sequence is one of:

a spreading sequence,

a scrambling sequence and

a midamble.

43. (New): The apparatus of claim 6 wherein the sequence is one of:

a spreading sequence,

a scrambling sequence and

a midamble.

44. (New): The apparatus of claim 7 wherein the sequence is one of:

a spreading sequence,

a scrambling sequence and

a midamble.

45. (New): The apparatus of claim 8 wherein the sequence is one of:

a spreading sequence,

a scrambling sequence and

a midamble.

46. (New): The apparatus of claim 2 further comprising:

means for processing data with the predetermined length sequence.

47. (New): The apparatus of claim 3 further comprising:

means for processing data with the predetermined length sequence.

48. (New): The apparatus of claim 4 further comprising:

means for processing data with the predetermined length sequence.

49. (New): The apparatus of claim 5 further comprising:

means for processing data with the predetermined length sequence.

50. (New): The apparatus of claim 6 further comprising:

means for processing data with the predetermined length sequence.

51. (New): The apparatus of claim 7 further comprising:

means for processing data with the predetermined length sequence.

52. (New): The apparatus of claim 8 further comprising:

means for processing data with the predetermined length sequence.

53. (New): The apparatus of claim 9 further comprising:

means for processing data with the predetermined length sequence.

54. (New): The method of claim 13 wherein n is determined from at least one of A-F:

A initial cell parameter assignment,

B system frame number (SFN),

C chip rate of transmission,

- D predetermined length of spreading code,
- E identifier of intended receiver of data spread with the predetermined length spreading code,
- F channelisation code employed.

55. (New): The method of claim 14 wherein n is determined from at least one of A-F:

- A initial cell parameter assignment,
- B system frame number (SFN),
- C chip rate of transmission,
- D predetermined length of spreading code,
- E identifier of intended receiver of data spread with the predetermined length spreading code,
- F channelisation code employed.

56. (New): The method of claim 15 wherein n is determined from at least one of A-F:

- A initial cell parameter assignment,
- B system frame number (SFN),
- C chip rate of transmission,
- D predetermined length of spreading code,

E identifier of intended receiver of data spread with the predetermined length spreading code,

F channelisation code employed.

57. (New): The method of claim 16 wherein n is determined from at least one of A-F:

A initial cell parameter assignment,

B system frame number (SFN),

C chip rate of transmission,

D predetermined length of spreading code,

E identifier of intended receiver of data spread with the predetermined length spreading code,

F channelisation code employed.

58. (New): The method of claim 13 wherein the plurality of predetermined sequences have a length of 16 chips.

59. (New): The method of claim 14 wherein the plurality of predetermined sequences have a length of 16 chips.

60. (New): The method of claim 15 wherein the plurality of predetermined sequences have a length of 16 chips.

61. (New): The method of claim 16 wherein the plurality of predetermined sequences have a length of 16 chips.

62. (New): The method of claim 17 wherein the plurality of predetermined sequences have a length of 16 chips.

63. (New): The method of claim 12 wherein the spread spectrum communication system comprises a DS-CDMA UMTS system.

64. (New): The method of claim 13 wherein the spread spectrum communication system comprises a DS-CDMA UMTS system.

65. (New): The method of claim 14 wherein the spread spectrum communication system comprises a DS-CDMA UMTS system.

66. (New): The method of claim 15 wherein the spread spectrum communication system comprises a DS-CDMA UMTS system.

67. (New): The method of claim 16 wherein the spread spectrum communication system comprises a DS-CDMA UMTS system.

68. (New): The method of claim 17 wherein the spread spectrum communication system comprises a DS-CDMA UMTS system.

69. (New): The method of claim 13 further comprising:
processing data with the predetermined length sequence.

70. (New): The method of claim 14 further comprising:
processing data with the predetermined length sequence.

71. (New): The method of claim 15 further comprising:
processing data with the predetermined length sequence.

72. (New): The method of claim 16 further comprising:

processing data with the predetermined length sequence.

73. (New): The method of claim 17 further comprising:

processing data with the predetermined length sequence.

74. (New): The method of claim 18 further comprising:

processing data with the predetermined length sequence.

75. (New): The method of claim 19 further comprising:

processing data with the predetermined length sequence.

76. (New): The method of claim 20 further comprising:

processing data with the predetermined length sequence.

77. (New): The apparatus of claim 1, wherein a first of the selected predetermined sequences comprises a length M and a second of the selected predetermined sequences comprises a length N.

78. (New): The apparatus of claim 77, wherein M equals N.

79. (New): The apparatus of claim 77, wherein M is not equal to N.

80. (New): The method of claim 12, wherein a first of the selected predetermined sequences comprises a length M and a second of the selected predetermined sequences comprises a length N.

81. (New): The method of claim 80, wherein M equals N.

82. (New): The method of claim 80, wherein M is not equal to N.